Abstract

Background and objective: The genetic variant (Trp64Arg) is a missense mutation located within the beta3 adrenoreceptor (Beta3AR). The aim of our study was to investigate the influence of Trp64Arg polymorphism in the Beta3AR gene on insulin resistance in obese patients and the allelic distribution of this polymorphism in a geographic area of Spain. Design: A population of 264 obese patients was analyzed. A bioimpedance, blood pressure, an assessment of nutritional intake, and biochemical parameters were measured. The beta 3 adrenoreceptor gene polymorphism (Trp64Arg) was genotyped. Results: Two hundred twenty six patients (77 males/149 females) (85.6%) had the genotype Trp64/Trp64 (wild type group) with and average age of 41.12 ± 13.1 years and 38 patients (16 males/22 females) Trp64/Arg64 (14.4%) (mutant type group) with an average age of 40.5 ± 12.7 years. High frequencies of Arg64 allele were observed in Salamanca and Valladolid. In the mutant type group, HOMA (3.75 ± 2.77 vs 5.27 ± 5.4; p < 0.05) was higher than wild type group. Conclusion: The finding of this study is the association of the Trp64/Arg64 Beta3AR with higher levels of HOMA. Frequencies of this polymorphism are different among geographic areas.

Keywords

Castilla-León, Obesity. Trp64Arg beta 3 adrenoreceptor.